STATE OF DELAWARE
EXECUTIVE DEPARTMENT
OFFICE OF MANAGEMENT AND BUDGET
STATE PLANNING COORDINATION

July 19, 2007

Mr. Gary A. Moore
River Basin Engineering
724 Yorklyn Road, Ste. 300
Hockessin, DE 19707

RE: PLUS 2007-06-04; Phillips Hill Farm

Dear Mr. Moore:

Thank you for meeting with State agency planners on June 27, 2007 to discuss the proposed plans for the Phillips Hill Farm project to be located west of Scott Land Road and Womach road, east of Laural.

According to the information received, you are seeking site plan approval through Sussex County for 390 single family homes on 260 acres.

Please note that changes to the plan, other than those suggested in this letter, could result in additional comments from the State. Additionally, these comments reflect only issues that are the responsibility of the agencies represented at the meeting. The developers will also need to comply with any Federal, State and local regulations regarding this property. We also note that as Sussex County is the governing authority over this land, the developers will need to comply with any and all regulations/restrictions set forth by the County.

This proposal is located in Investment Level 4 according to the *Strategies for State Policies and Spending*, and is within the "Low Density Area" according to the certified county plan. **The comments in this letter are technical, and are not intended to suggest that the State supports this development proposal. This letter does not in any way suggest or imply that you may receive or may be entitled to permits or other approvals necessary to construct the development you indicate or any subdivision thereof on these lands.**

The following are a complete list of comments received by State agencies:

Office of State Planning Coordination – Contact: Bryan Hall 739-3090

This project represents a major land development that will result in 390 residential units in an Investment Level 4 area according to the *2004 Strategies for State Policies and Spending*. Investment Level 4 indicates where State investments will support agricultural preservation, natural resource protection, and the continuation of the rural nature of these areas. New development activities and suburban development are not supported in Investment Level 4 areas. These areas are comprised of prime agricultural lands and environmentally sensitive wetlands and wildlife habitats, which should be, and in many cases have been preserved.

From a fiscal responsibility perspective, development of this site is likewise inappropriate. The cost of providing services to development in rural areas is an inefficient and wasteful use of the State's fiscal resources. The project as proposed is likely to bring more than 950 new residents to an area where the State has no plans to invest in infrastructure upgrades or additional services. These residents will need access to such services and infrastructure as schools, police, and transportation. To provide some examples, the State government funds 100% of road maintenance and drainage improvements for the transportation system, 100% of school transportation and paratransit services, up to 80% of school construction costs, and about 90% of the cost of police protection in the unincorporated portion of Sussex County where this development is proposed. Over the longer term, the unseen negative ramifications of this development will become even more evident as the community matures and the cost of maintaining infrastructure and providing services increases.

Because the development is inconsistent with the *Strategies for State Policies and Spending*, the State is opposed to this proposed subdivision.

Division of Historical and Cultural Affairs – Contact: Alice Guerrant 739-5685

The historic resources at the Division of Historical & Cultural Affairs- State Historic Preservation Office do show that there are no visual or known archaeological sites on or within the area of where this parcel (property) is located. However, there is also possibility that there could be prehistoric-period or historic-period archaeological sites still existing on this parcel, or within the area of where this parcel is located. Also, be aware that near this parcel there are a few dwellings/structures with some historic features, which are historical significant.

If this development is approved or proceeds, the Division of Historical & Cultural Affairs-State Historic Preservation Office would like the opportunity to examine the area prior to any ground-disturbing activities, to see if there are in fact any archaeological sites on the parcel and to learn something about their location, nature, and extent. If you would like to discuss this information or other issues further, contact the Division of Historical & Cultural Affairs at (302) 744-7400 ext.25.

Department of Transportation – Contact: Bill Brockenbrough 760-2109

Ross Point Associates, LLC seeks to develop 390 single-family detached houses on a 260.69-acre assemblage of parcels (Tax Parcels 2-32-20.00-32.00 and 33.00) located between Laurel and Millsboro, on both sides of Phillips Hill Road (Sussex Road 472 and on the west sides of Scott Land Road (Sussex Road 434) and Womach Road (Sussex Road 438). The land is zoned AR-1 in Sussex County and would be developed under the County's cluster development option.

Because this development is proposed for a Level 4 Area, it is inconsistent with the *Strategies for State Policies and Spending.* As part of our commitment to support the *Strategies,* DelDOT refrains from participating in the cost of any road improvements needed to support this development and is opposed to any road improvements that will substantially increase the transportation system capacity in this area. DelDOT will only support taking the steps necessary to preserve the existing transportation infrastructure and make whatever safety and drainage related improvements are deemed appropriate and necessary. The intent is to preserve the open space, agricultural lands, natural habitats and forestlands that are typically found in Level 4 Areas while avoiding the creation of isolated development areas that cannot be served effectively or efficiently by public transportation, emergency responders, and other public services.

DelDOT strongly supports new development in and around existing towns and municipalities and in areas designated as growth zones in approved Comprehensive Plans. DelDOT encourages the use of transfer of development rights where this growth management tool is available.

If this development proposal is approved, notwithstanding inconsistencies with the relevant plans and policies, DelDOT will provide further technical review and comments.

The Department of Natural Resources and Environmental Control – Contact: Kevin Coyle 739-9071

Investment Level 4 Policy Statement

This project is proposed for an Investment Level 4 area as defined by the *Strategies for State Policies and Spending* and is also located outside of a designated growth area in the relevant municipal and county certified comprehensive plans. According to the *Strategies* this project is inappropriate in this location. In Investment Level 4 areas, the State's investments and policies, from DNREC's perspective, should retain the rural landscape and preserve open spaces and farmlands. Open space investments should emphasize the protection of critical natural habitat and wildlife to support a diversity of species, and the protection of present and future water supplies. Open space investments should also provide for recreational activities, while helping to define growth areas. Additional state investments in water and wastewater systems should be limited to existing or imminent public health, safety or environmental risks only, with little provision for additional capacity to accommodate further development.

With continued development in Investment Level 4 areas, the State will have a difficult, if not impossible, time attaining water quality (e.g., TMDLs) and air quality (e.g., non-attainment areas for ozone and fine particulates) goals. Present and future investments in green infrastructure, as defined in Governor Minner's Executive Order No. 61, will be threatened. DNREC strongly supports new development in and around existing towns and municipalities and in areas designated as growth zones in certified Comprehensive Plans. We encourage the use of transfer of development rights where this growth management tool is available.

This particular development certainly compromises the integrity of the State Strategies and the preservation goals inherent in many of DNREC's programs. Of particular concern are potential impacts to all three layers of the Green Infrastructure map (natural resource and recreation priorities, cropland, and forests), the loss/fragmentation of forest (127 out of 139 acres or 91%), the increase in impervious cover, and the project's location in an excellent recharge area. While mitigating measures such as conservation design, central wastewater systems instead of individual on-site septic systems, and other best management practices may help mitigate impacts from this project, not doing the project at all is the best avenue for avoiding negative impacts. As such, this project will receive no financial, technical or other support of any kind from DNREC. Any required permits or other authorizations for this project shall be considered in light of the project's conflict with our State growth strategies.

Green Infrastructure

Portions or all of the lands associated with this proposal are within the Livable Delaware Green Infrastructure area established under Governor Minner's Executive Order #61 that represents a network of ecologically important natural resource lands of special state conservation interest.

Green infrastructure is defined as Delaware's natural life support system of parks and preserves, woodlands and wildlife areas, wetlands and waterways, productive agricultural and forest land, greenways, cultural, historic and recreational sites and other natural areas all with conservation value. Preserving Delaware's Green Infrastructure network will support and enhance biodiversity and functional ecosystems, protect native plant and animal species, improve air and water quality, prevent flooding, lessen the disruption to natural landscapes, provide opportunities for profitable farming and forestry enterprises, limit invasive species, and foster ecotourism.

Voluntary stewardship by private landowners is essential to green infrastructure conservation in Delaware, since approximately 80 percent of the State's land base is in private hands. It is in that spirit of stewardship that the Department appeals to the landowner and development team to protect sensitive resources through an appropriate site design.

Soils

According to the Sussex County soil survey update, Hambrook, Rockawalkin, Hurlock, and Puckum, and Longmarsh were mapped in the immediate vicinity of the proposed construction. Hambrook is a well-drained upland soil that, generally, has few limitations for development. Rockawalkin is a moderately well-drained soil of low-lying uplands that has moderate limitations for development. Hurlock is a poorly-drained wetland associated (hydric) soil that has severe limitations for development. Puckum and Longmarsh are very poorly-drained wetland associated (hydric) floodplain soils that have severe limitations for development.

As mentioned previously, a significant portion of the mapped soils on subject parcel are poorly to very poorly-drained (hydric) Hurlock, Puckum, and Longmarsh (estimated 20-25% of the parcel's land area). Hydric soils typically have a seasonal high water table at or near the soil surface (within one foot of soil surface or less). Building in such soils is likely to leave prospective residents of this and adjoining properties susceptible to future flooding problems from groundwater-driven surface water ponding, especially during extended periods of high-intensity rainfall events such as tropical storms/hurricanes or "nor'easters." This is in addition to increased flooding probabilities from surface water

runoff emanating from future created forms of structural imperviousness (roof tops, roads, and sidewalks).

Based on the Chapter 99, Section 16A of the Sussex County Code (paraphrased), lands compromised by improper drainage or flooding potential pose significant threats to the safety and general welfare of future residents and, therefore, shall not be developed. Soils such as Hurlock, Puckum and Longmarsh fit the criterion for improper drainage or high flooding potential and should be avoided. The Watershed Assessment Section believes permitting development on such soils would violate the above-stated provision of the Sussex County Code.

Wetlands

According to the Statewide Wetland Mapping Project (SWMP) mapping, palustrine forested riparian wetlands were mapped in the immediate vicinity of an unnamed headwater tributary (or name unknown) bisecting the central and southern portion of the combined parcel land area. It is also likely that some unmapped wetlands may also be found in the forested portion of the parcel.

The applicant should be reminded that they must avoid construction/filling activities in those areas containing wetlands or wetland associated hydric soils as they are subject to regulatory jurisdiction under Federal 404 provisions of the Clean Water Act. A site-specific field wetlands delineation using the methodology described in the 1987 United States Army Corps of Engineers (USACE) manual is the basis for making a jurisdictional wetland determination for nontidal wetlands in Delaware. The USACE views the use of the National Wetlands Inventory (NWI) mapping or the Statewide Wetlands Mapping Project (SWMP) mapping as an unacceptable substitute for making such delineations. To ensure compliance with USACE regulatory requirements, it is strongly recommended that a field wetlands delineation using the above-referenced methodology be performed on this parcel before commencing any construction activities. It is further recommended that the USACE be given the opportunity to officially approve the completed delineation. In circumstances where the applicant or applicant's consultant delineates what they believe are nonjurisdictional isolated (SWANCC) wetlands, the USACE must be contacted to evaluate and assess the jurisdictional validity of such a delineation as the final jurisdictional authority for making isolated wetlands determinations ultimately rests with the USACE. The USACE can be reached by phone at 302-736-9763.

As noted previously, palustrine headwater water riparian wetlands comprise a significant portion of the project's combined parcel land area. Since protection of headwater riparian wetlands are critical for maintaining water quality and ecological integrity throughout the length of the stream, including floodplain system and water bodies further

downstream, their protection deserves the highest priority. Therefore, the Watershed Assessment Section recommends that the applicant maintain a minimum 100-foot upland buffer from the landward edges of all riparian wetlands and water bodies (including ditches). Moreover, a 100-foot buffer is also recommended from all nonriparian wetlands. A literature review of existing buffer research by Castelle et al. (1994) has documented consensus among researchers that a 100-foot upland buffer is the minimum buffer width necessary, under most circumstances, to protect water quality.

Impervious Cover

Based on information provided by the applicant in the PLUS application, post-development surface imperviousness for this project was estimated by the applicant to reach 17 percent. However, given the scope and density of this project this projection may be an underestimate.

The applicant should realize that all forms of constructed surface imperviousness (i.e., rooftops, sidewalks, stormwater management structures, and roads) should be included in the calculation for surface imperviousness; it was unclear from the submittal whether constructed surface imperviousness was comprehensively considered. Nonetheless, it is strongly recommended that the applicant include all of aforementioned forms of surface imperviousness in their finalized calculation for surface imperviousness. This will ensure a realistic assessment of this project's likely post-construction environmental impacts.

Studies have shown a strong relationship between increases in impervious cover to decreases in a watershed's overall water quality. It is strongly recommended that the applicant implement best management practices (BMPs) that reduce or mitigate some of its most likely adverse impacts. Reducing the amount of surface imperviousness through the use of pervious paving materials ("pervious pavers") in lieu of asphalt or concrete in conjunction with an increase in forest cover preservation or additional tree plantings are some examples of practical BMPs that could easily be implemented to help reduce surface imperviousness.

ERES Waters

This project is located adjacent to receiving waters Broad Creek watershed, a subwatershed of the greater Nanticoke watershed, and designated as having waters of Exceptional Recreational or Ecological Significance (ERES). ERES waters are recognized as special assets of the State, and shall be protected and/ or restored, to the maximum extent practicable, to their natural condition. Provisions in Section 5.6 of Delaware's "Surface Water Quality Standards" (as amended July 11, 2004), specify that all designated ERES waters and receiving tributaries develop a "pollution control

strategy" to reduce non-point sources of pollutants through implementation of Best Management Practices (BMPs). Moreover, provisions defined in subsection 5.6.3.5 of same section, specially authorize the Department to mandate BMPs to meet standards for controlling the addition of pollutants and reducing them to the greatest degree achievable and, where practicable, implementation of a standard requiring no discharge of pollutants.

TMDLs

Total Maximum Daily Loads (TMDLs) for nitrogen and phosphorus have been promulgated through regulation for the Broad Creek watershed. A TMDL is the maximum level of pollution allowed for a given pollutant below which a "water quality limited water body" can assimilate and still meet water quality standards to the extent necessary to support use goals such as, swimming, fishing, drinking water and shell fish harvesting. Although TMDLs are required by federal law, states are charged with developing and implementing standards to support these desired use goals. In the greater Broad Creek watershed, "target-rate-nutrient reductions" of 30 and 50 percent will be required for nitrogen and phosphorus, respectively. Additionally, "target-rate-reductions" of 2 percent will be required for bacteria.

TMDL Compliance through the PCS

As indicated above, Total Maximum Daily loads (TMDLs) for nitrogen and phosphorus have been proposed for the Broad Creek watershed. The TMDL calls for a 30 and 50 percent reduction in nitrogen and phosphorus from baseline conditions. The TMDL also calls for a 2 percent reduction in bacteria. A pollution control strategy (PCS) will be used as a regulatory framework to ensure that these nutrient reduction targets are attained. The Department has developed an assessment tool to evaluate how your proposed development may reduce nutrients to meet the TMDL requirements. Additional nutrient reductions may be possible through the implementation of Best Management Practices such as wider vegetated buffers along watercourses, increasing passive, wooded open space, connection to central sewer (if available), and the use of green-technology stormwater management treatment trains. Contact Lyle Jones at 302-739-9939 for more information on the assessment tool.

Water Resource Protection Areas

The Water Supply Section has determined that the project falls partially within an excellent ground-water recharge potential area. No wellhead protection areas were found. The site plan submitted by the developer shows a "Wastewater Disposal Area" in the excellent ground-water recharge potential area (see following map and attached map).

Excellent ground-water recharge potential areas are those areas mapped by the Delaware Geological Survey where the first 20 feet of subsurface soils and geologic materials are exceptionally sandy. These soils are able to transmit water very quickly from the land surface to the water table. This map category is an "indicator of how fast contaminants will move and how much water may become contaminated" (Andres, 2004, pg 1). Land use activities or impervious cover on areas of excellent groundwater recharge potential may adversely affect the quality and quantity of ground water in these areas.

The PLUS document shows a proposed wastewater disposal area within the excellent ground-water recharge area. The applicant did not specify what type of wastewater treatment system is proposed and all systems are prone to small problems. If a problem were to occur in the system that released contaminants, they would pose a likely threat to the quality of water in the underlying unconfined aquifer.

- Relocate the wastewater system to an area outside excellent ground-water recharge potential area.

(or)

- Use a more advanced wastewater treatment system will/may be necessary to assure the quality and quantity of ground water in this area.

The Water Supply Section recommends that the portion of the new development within the excellent ground-water recharge potential area not exceed 20% impervious cover. Some allowance for augmenting ground-water recharge should be considered if the impervious cover exceeds 20% but is less than 50% of that portion of the parcel within this area. However, the development should not exceed 50% regardless. A water balance calculation will be necessary to determine the quantity of clean water to be recharged via a recharge basin (Kauffman, 2005).

The purpose of an impervious cover threshold is to minimize loss of recharge (and associated increases in storm water) and protect the quality and quantity of ground water and surface water supplies. The proposed development would change the impervious over from 0% to approximately 17%. The developer on the PLUS application provided these numbers. WSS finds these percentages to grossly underestimate the impervious cover within the excellent ground-water recharge potential area.

Water Supply recommends:

- Relocating any open space areas to the part of the parcel within the excellent ground-water recharge potential area. This would decrease the total impervious cover area.

- Augmenting the groundwater recharge with clean rooftop run-off systems are an alternative to maintaining the quality and quantity of water recharging the aquifer (Kauffman, 2005).

- Perform a water balance calculation to quantify the quantity of clean water recharged via a recharge basin.

In addition, because the excellent ground-water recharge potential areas can so quickly affect the underlying aquifer if contaminants are spilled or discharged across the area, the storage of hazardous substances or wastes should not be allowed within the area unless specific approval is obtained from the relevant State, Federal, or local program.

References

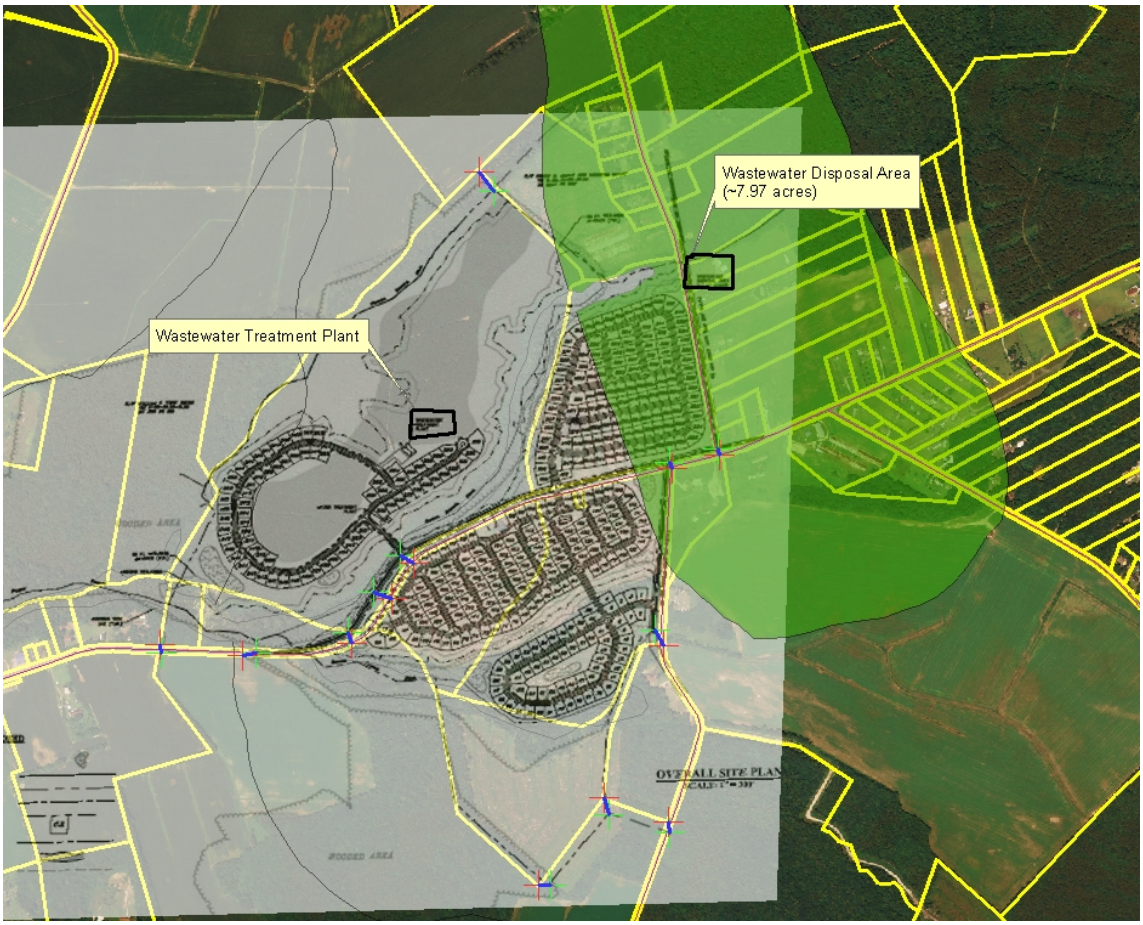
Andres, A. Scott, 2004, Ground-Water Recharge Potential Mapping in Kent and Sussex Counties, Delaware: Delaware Geological Survey Report of Investigations No. 66, p. 14.
http://www.udel.edu/dgs/Publications/pubform.html#nvestigations

Delaware Department of Natural Resources and Environmental Control (2005): *Source Water Protection Guidance Manual for the Local Governments of Delaware*: Dover, DE, 144 p.
http://www.wr.udel.edu/publications/SWAPP/swapp_manual_final/swapp_guidance_manual_final.pdf

Kauffman, G.J., Wozniak, S.L., and Vonck, K.J., 2005, *Delaware Ground-Water Recharge Design Manual*: Newark, DE, Water Resources Agency, University of Delaware, p. 31.
http://www.wr.udel.edu/swaphome/Publications/SWPguidancemanual.html

Map of Phillips Farm (PLUS 2007-06-04)

The excellent ground-water recharge potential area is shown in green.



Water Supply

The information provided indicates that Tidewater Utilities will provide well water to the proposed projects through a central community water system. DNREC files reflect that Tidewater Utilities does not currently hold a certificate of public convenience and necessity (CPCN) to provide public water in these areas. They will need to file an application for a CPCN with the Public Service Commission, if they have not done so already. Information on CPCN requirements and applications can be obtained by

contacting the Public Service Commission at 302-739-4247. Should an on-site public well be needed, it must be located at least 150 feet from the outermost boundaries of the project. The Division of Water Resources will consider applications for the construction of on-site wells provided the wells can be constructed and located in compliance with all requirements of the Regulations Governing the Construction and Use of Wells. A well construction permit must be obtained prior to constructing any wells.

Should dewatering points be needed during any phase of construction, a dewatering well construction permit must be obtained from the Water Supply Section prior to construction of the well points. In addition, a water allocation permit will be needed if the pumping rate will exceed 50,000 gallons per day at any time during operation.

All well permit applications must be prepared and signed by licensed water well contractors, and only licensed well drillers may construct the wells. Please factor in the necessary time for processing the well permit applications into the construction schedule. Dewatering well permit applications typically take approximately four weeks to process, which allows the necessary time for technical review and advertising.

Should you have any questions concerning these comments, please contact Rick Rios at 302-739-9944.

Sediment and Erosion Control/Stormwater Management

Prior to land disturbing activity greater than 5,000 square feet, and as soon as possible prior to site plan development if possible, the applicant should contact the Sussex Conservation District at (302) 856-7219, to schedule a pre-application meeting to discuss stormwater management and erosion and sediment control plans. Use of green technology practices and low impact development practices are recommended where feasible.

Drainage

1. The Drainage Program requests that the engineer take precautions to ensure the project does not hinder any off site drainage upstream of the project or create any off site drainage problems downstream by the release of on site storm water. The Drainage Program requests that the engineer check existing downstream ditches and pipes for function and blockages prior to the construction. Notify downstream landowners of the change in volume of water released on them.

2. The Drainage Program encourages the elevation of rear yards to direct water towards the streets where storm drains are accessible for maintenance. However,

the Drainage Program recognizes the need for catch basins in yards in certain cases. Therefore, catch basins placed in rear and side yards will need to be clear of obstructions and be accessible for maintenance. Decks, sheds, fences, pools, and kennels can hinder drainage patterns as well as future maintenance to the storm drain or catch basin. Deed restrictions, along with drainage easements recorded on deeds, should ensure adequate future maintenance access.

3. Increase the side yard setback to 15 feet on all properties with a drainage easement on the side. The increase will allow room for equipment to utilize the entire easement and maneuver free of obstructions if the drainage conveyance requires periodic maintenance or future re-construction. The side yard setback would only increase on the side with the drainage easement.

4. All catch basins in rear or side yards should have a 10-foot drainage easement around them on all sides. Place restrictions on fences, sheds, and other structures within the easement to prevent obstructions from being place next to the catch basin.

5. Have all drainage easements recorded on deeds and place restrictions on obstructions within the easements to ensure access for periodic maintenance or future re-construction. Future property owners may not be aware of a drainage easement on their property if the easement is only on the record plan. However, by recording the drainage easement on the deed, the second owner, and any subsequent owner of the property, will be fully aware of the drainage easement on their property.

6. Preserve existing riparian buffers on this site to aid in the reduction of nutrients, sediment, and other pollutants entering the watershed. Please explore methods to filter excess nutrients in stormwater runoff from this site before releasing the stormwater into the Pepper Branch watershed.

7. The Drainage Program does not support the removal of trees for the creation of stormwater management areas. However, the Drainage Program recognizes that tree removal is unavoidable in some cases. Where practical, plant native trees and shrubs to compensate for the loss of nutrient uptake and stormwater absorption the removed trees provided.

For questions or clarifications, please contact Jim Sullivan at (302) 739-9921.

Rare Species

DNREC has never surveyed this site; therefore, it is unknown if there are state-rare or federally listed plants, animals or natural communities at this project site. There is a fairly extensive Atlantic White Cedar wetland community just downstream that could be impacted by run-off from this development. Atlantic white cedar communities typically grow under unique conditions which are refugia for rare species. This wetland type is sensitive to sedimentation and changes in water quality, especially pH. The hydrological regime is a major determinant of the resulting biota in this system and adequate upland buffers are essential to the persistence of this state-rare community.

Wetland Buffers

The site plan indicates that 50-foot wetland buffers have been provided, but in some areas the buffer width is greater than 50 feet. We appreciate this effort, but recommend increasing the buffer width to 100 feet in areas where it is less in order to protect water quality and the rare cedar communities. Lot lines and infrastructure should not be located within this buffer area. This request for 100-foot buffers is based on peer reviewed scientific research which indicates buffers less than 100 feet are not adequate for the protection of water quality. Also, in general, upland buffers along water courses provide valuable habitat and travel corridors for wildlife.

Forested Preservation

It appears from the site plan that a large portion of the lots are located on non-forested land (or previously clear-cut); however, the application indicates that 127.2 acres of forest will be removed. This amount of forest removal within a 138.5 acre project area seems excessive. Although much of this forest has been previously harvested it does provide habitat for some wildlife species and if maintained will mature. There is a large portion of forest designated as a wastewater disposal area. It is unclear how this will affect the existing trees and understory vegetation. If this system will result in the degradation of the forest, this should be indicated in the application or disclosed if this project moves forward through the approval process.

A lack of forest protection has contributed to an estimated 20,000 acres of forest converted by development just in the last decade in Delaware (Dept. of Agriculture, Forestry Service). This cumulative forest loss has led to a corresponding loss of forest-dependent species (Environmental Law Institute. 1999. Protecting Delaware's Natural Heritage: Tools for Biodiversity Conservation. ISBN#1-58576-000-5). Cumulative forest loss throughout the state is of utmost concern to our Division (which is charged with conserving and managing the states wildlife; see www.fw.delaware.gov and the Delaware

State Code, Title 7). Because of an overall lack of forest protection, we have to rely on applicants and/or the entity that approves the project (i.e. counties and municipalities) to consider implementing measures that will aide in forest loss reduction.

Recommendations:

1. The developer should consider taking measures that will reduce the amount of trees to be cleared. This could entail a reduction in the number of lots within the forested area, mainly those in the northwestern quadrant. Many incentive-based programs for wildlife management are available to private landowners through our agency. Please contact Shelley Tovell at (302) 735-3605 if the landowner(s) is interested in more information. Also, our botanist, Bill McAvoy (302-653-2880) can assist the applicant in developing a plant list for wildlife habitat restoration efforts on this site if desired.

2. The applicant should discuss stormwater management options with the district engineer (or entity that approves the plan) that do not require tree removal.

3. We recommend that trees not be cleared from April 1st to July 31st to minimize impacts to birds and other wildlife that utilize forests for breeding. This recommendation would only protect those species for one breeding season; once trees are cleared the result is an overall loss of habitat.

Nuisance Geese

The applicant indicated that nuisance species would be considered, however, specific methods were not listed. DNREC recommends native plantings, including tall grasses, wildflowers, shrubs, and trees at the edge and within a buffer area (at least 50 feet) around stormwater management ponds. Geese do not feel as safe from predators when their view of the area is blocked and will be less likely to take up residence in the pond. These plantings should be completed as soon as possible as it is easier to deter geese when there are only a few than it is to remove them once they become plentiful. The Division of Fish and Wildlife does not provide goose control services, and if problems arise, residents or the home-owners association will have to accept the burden of dealing with these species (e.g., permit applications, costs, securing services of certified wildlife professionals). Solutions can be costly and labor intensive; however, with proper landscaping, monitoring, and other techniques, geese problems can be minimized.

Potential Hunting Issue

Because the project parcel is part of a larger forest block and adjacent to forested parcels, legal hunting activities may take place on adjacent properties. Hunting within 100 yards of a dwelling is prohibited and the applicant should contact adjacent landowners to determine if this is going to be an issue. In effect, the adjacent landowner will be losing 100 yards of their property for hunting if there is not a buffer between lot lines and the adjacent property line. There is also noise associated with hunting, such as the discharge of firearms or dogs barking when pursuing game.

Air Quality

Once complete, vehicle emissions associated with this project are estimated to be 29.9 tons (59,860.9 pounds) per year of VOC (volatile organic compounds), 24.8 tons (49,560.8 pounds) per year of NOx (nitrogen oxides), 18.3 tons (36,566.9 pounds) per year of SO2 (sulfur dioxide), 1.6 ton (3,255.1 pounds) per year of fine particulates and 2,503.6 tons (5,007,290.5 pounds) per year of CO2 (carbon dioxide).

However, because this project is in a level 4 area, mobile emission calculations should be increased by 118 pounds for VOC emissions for each mile outside the designated growth areas per household unit; by 154 pounds for NOx; and by 2 pounds for particulate emissions. A typical development of 100 units that is planned 10 miles outside the growth areas will have additional 59 tons per year of VOC emissions, 77 tons per year of NOx emissions and 1 ton per year of particulate emissions versus the same development built in a growth area (level 1,2 or 3).

Emissions from area sources associated with this project are estimated to be 12.1 tons (24,144.6 pounds) per year of VOC (volatile organic compounds), 1.3 ton (2,656.6 pounds) per year of NOx (nitrogen oxides), 1.1 ton (2,204.6 pounds) per year of SO2 (sulfur dioxide), 1.4 ton (2,845.0 pounds) per year of fine particulates and 48.9 tons (97,876.9 pounds) per year of CO2 (carbon dioxide).

Emissions from electrical power generation associated with this project are estimated to be 4.8 tons (9,569.2 pounds) per year of NOx (nitrogen oxides), 16.6 tons (33,284.2 pounds) per year of SO2 (sulfur dioxide) and 2,454.7 tons (4,909,413.6 pounds) per year of CO2 (carbon dioxide).

	VOC	NOx	SO_2	$PM_{2.5}$	CO_2
Mobile	29.9	24.8	18.3	1.6	2503.6
Residential	12.1	1.3	1.1	1.4	48.9

Electrical Power		4.8	16.6		2454.7
TOTAL	42.0	30.9	36.0	3.0	5007.2

For this project the electrical usage via electric power plant generation alone totaled to produce an additional 4.8 tons of nitrogen oxides per year and 16.6 tons of sulfur dioxide per year.

A significant method to mitigate this impact would be to require the builder to construct Energy Star qualified homes. Every percentage of increased energy efficiency translates into a percent reduction in pollution. Quoting from their webpage, http://www.energystar.gov/:

"ENERGY STAR qualified homes are independently verified to be at least 30% more energy efficient than homes built to the 1993 national Model Energy Code or 15% more efficient than state energy code, whichever is more rigorous. These savings are based on heating, cooling, and hot water energy use and are typically achieved through a combination of:

building envelope upgrades,
high performance windows,
controlled air infiltration,
upgraded heating and air conditioning systems,
tight duct systems and
upgraded water-heating equipment."

The Energy Office in DNREC is in the process of training builders in making their structures more energy efficient. The Energy Star Program is excellent way to save on energy costs and reduce air pollution. The highly recommend this project development and other residential proposals increase the energy efficiency of their homes.

They also recommend that the home builders offer geothermal and photo voltaic energy options. Applicable vehicles should use retrofitted diesel engines during construction. The development should provide tie-ins to the nearest bike paths, links to mass transit, and fund a lawnmower exchange program for their new occupants.

State Fire Marshal's Office – Contact: Duane Fox 856-5298

These comments are intended for informational use only and do not constitute any type of approval from the Delaware State Fire Marshal's Office. At the time of formal submittal,

the applicant shall provide; completed application, fee, and three sets of plans depicting the following in accordance with the Delaware State Fire Prevention Regulation (DSFPR):

a. **Fire Protection Water Requirements**:
- Where a water distribution system is proposed for single-family dwellings it shall be capable of delivering at least 500 gpm for 1-hour duration, at 20-psi residual pressure. Fire hydrants with 1000 feet spacing on centers are required.
- The infrastructure for fire protection water shall be provided, including the size of water mains.

b. **Accessibility:**
- All premises, which the fire department may be called upon to protect in case of fire, and which are not readily accessible from public roads, shall be provided with suitable gates and access roads, and fire lanes so that all buildings on the premises are accessible to fire apparatus. This means that the access road to the subdivision from Womach Road must be constructed so fire department apparatus may negotiate it.
- Fire department access shall be provided in such a manner so that fire apparatus will be able to locate within 100 ft. of the front door.
- Any dead end road more than 300 feet in length shall be provided with a turn-around or cul-de-sac arranged such that fire apparatus will be able to turn around by making not more than one backing maneuver. The minimum paved radius of the cul-de-sac shall be 38 feet. The dimensions of the cul-de-sac or turn-around shall be shown on the final plans. Also, please be advised that parking is prohibited in the cul-de-sac or turn around.
- The use of speed bumps or other methods of traffic speed reduction must be in accordance with Department of Transportation requirements.
- The local Fire Chief, prior to any submission to our Agency, shall approve in writing the use of gates that limit fire department access into and out of the development or property.

c. **Gas Piping and System Information:**
- Provide type of fuel proposed, and show locations of bulk containers on plan.

d. **Required Notes**:
- Provide a note on the final plans submitted for review to read " All fire lanes, fire hydrants, and fire department connections shall be marked in accordance with the Delaware State Fire Prevention Regulations"

- Name of Water Supplier
- Proposed Use
- National Fire Protection Association (NFPA) Construction Type
- Townhouse 2-hr separation wall details shall be shown on site plans
- Maximum Height of Buildings (including number of stories)
- Provide Road Names, even for County Roads

Preliminary meetings with fire protection specialists are encouraged prior to formal submittal. Please call for appointment. Applications and brochures can be downloaded from our website: www.delawarestatefiremarshal.com, technical services link, plan review, applications or brochures.

Department of Agriculture - Contact: Scott Blaier 698-4500

The Department is opposed to development in areas designated as Investment Level 4 under the *Strategies for State Policies and Spending*. The *Strategies* do not support isolated development of these areas. The intent of this plan is to preserve the agricultural lands, forestlands, recreational uses, and open spaces that are preferred uses in Level 4 areas. The Department of Agriculture opposes development which conflicts with the preferred land uses, making it more difficult for agriculture and forestry to succeed, and increases the cost to the public for services and facilities.

More importantly, the Department of Agriculture opposes this project because it negatively impacts those land uses that are the backbone of Delaware's resource industries - agriculture, forestry, horticulture - and the related industries they support. Often new residents of developments like this one, with little understanding or appreciation for modern agriculture and forestry, find their own lifestyles in direct conflict with the demands of these industries. Often these conflicts result in compromised health and safety; one example being decreased highway safety with farm equipment and cars competing on rural roads. The crucial economic, environmental and open space benefits of agriculture and forestry are compromised by such development. We oppose the creation of isolated development areas that are inefficient in terms of the full range of public facilities and services funded with public dollars. Public investments in areas such as this are best directed to agricultural and forestry preservation.

The proposed development is adjacent to a property currently enrolled in the State's Agricultural Lands Preservation Program (Grays Branch Agricultural District, (Parcel # 2.32-15.00-55.00). Therefore, the activities conducted on this preserved property will be protected by the agricultural use protections outlined in Title 3, Del. C., Chapter 9. These protections effect adjoining developing properties. The 300 foot notification requirement

affects **all new deeds** in a subdivision located in whole or part within 300 feet of an Agricultural District. Please take note of these restrictions as follows:

§ 910. Agricultural use protections.

(a) Normal agricultural uses and activities conducted in a lawful manner are preferred and priority uses and activities in Agricultural Preservation Districts. In order to establish and maintain a preference and priority for such normal agricultural uses and activities and avert and negate complaints arising from normal noise, dust, manure and other odors, the use of agricultural chemicals and nighttime farm operations, land use adjacent to Agricultural Preservation Districts shall be subject to the following restrictions:

(1) For any new subdivision development located in whole or in part within 300 feet of the boundary of an Agricultural Preservation District, the owner of the development shall provide in the deed restrictions and any leases or agreements of sale for any residential lot or dwelling unit the following notice:

This property is located in the vicinity of an established Agricultural Preservation District in which normal agricultural uses and activities have been afforded the highest priority use status. It can be anticipated that such agricultural uses and activities may now or in the future involve noise, dust, manure and other odors, the use of agricultural chemicals and nighttime farm operations. The use and enjoyment of this property is expressly conditioned on acceptance of any annoyance or inconvenience which may result from such normal agricultural uses and activities."

(2) For any new subdivision development located in whole or in part within 50 feet of the boundary of an Agricultural Preservation District, no improvement requiring an occupancy approval shall be constructed within 50 feet of the boundary of the Agricultural Preservation District.

(b) Normal agricultural uses and activities conducted in accordance with good husbandry and best management practices in Agricultural Preservation Districts shall be deemed protected actions and not subject to any claim or complaint of nuisance, including any such claims under any existing or future county or municipal code or ordinance. In the event a

formal complaint alleging nuisance related to normal agricultural uses and activities is filed against an owner of lands located in an Agricultural Preservation District, such owner, upon prevailing in any such action, shall be entitled to recover reasonably incurred costs and expenses related to the defense of any such action, including reasonable attorney's fees (68 Del. Laws, c. 118, § 2.).

In addition, if any wells are to be installed, Section 4.01(A)(2) of the Delaware Regulations Governing the Construction and Use of Wells will apply. This regulation states:

(2) For any parcel, lot, or subdivision created or recorded within fifty (50) feet of, or within the boundaries of, an Agricultural Lands Preservation District (as defined in Title 3, Del. C., Chapter 9); all wells constructed on such parcels shall be located a minimum of fifty (50) feet from any boundary of the Agricultural Lands Preservation District. This requirement does not apply to parcels recorded prior to the implementation date of these Regulations. However, it is recommended that all wells be placed the maximum distance possible from lands which are or have been used for the production of crops which have been subjected to the application of land applied federally regulated chemicals.

Section 1. Chapter 99, Code of Sussex Section 99-6 may also apply to this subdivision. The applicant should verify the applicability of this provision with Sussex County. This Section of the Code states:

G. Agricultural Use Protections.

(1) Normal agricultural uses and activities conducted in a lawful manner are preferred. In order to establish and maintain a preference and priority for such normal agricultural uses and activities and avert and negate complaints arising from normal noise, dust, manure and other odors, the use of agricultural chemicals and nighttime farm operations, land uses adjacent to land used primarily for agricultural purposes shall be subject to the following restrictions:

(a) For any new subdivision development located in whole or in part within three hundred (300) feet of the boundary of land used primarily for agricultural purposes, the owner of the development shall provide in the deed restrictions and any leases or agreements of sale for any residential lot or dwelling unit the following notice:

> "This property is located in the vicinity of land used primarily for agricultural purposes on which normal agricultural uses and activities have been afforded the highest priority use status. It can be anticipated that such agricultural uses and activities may now or in the future involve noise, dust, manure and other odors, the use of agricultural chemicals and nighttime farm operations. The use and enjoyment of this property is expressly conditioned on acceptance of any annoyance or inconvenience which may result from such normal agricultural uses and activities."

(b) For any new subdivision development located in whole or in part within fifty (50) feet of the boundary of land used primarily for agricultural purposes no improvement requiring and occupancy approval for a residential type use shall be constructed within fifty (50) feet of the boundary of land used primarily for agricultural purposes.

A large portion of this site has been designated as having "excellent" ground-water recharge potential. DNREC has mapped all ground-water recharge-potential recharge areas for the state, and an "excellent" rating designates an area as having important groundwater recharge qualities.

Senate Bill 119, enacted by the 141st General Assembly in June of 2001, requires the counties and municipalities with over 2,000 people to adopt as part of the update and implementation of their 2007 comprehensive land use plans, areas delineating excellent ground-water recharge potential areas. Furthermore, the counties and municipalities are required to adopt regulations by December 31, 2007 governing land uses within those areas to preserve ground-water quality and quantity.

Maintaining pervious cover in excellent and good recharge areas is crucial for the overall environmental health of our state and extremely important to efforts which ensure a safe drinking water supply for future generations. Retention of pervious cover to ensure an adequate future water supply is also important for the future viability of agriculture in the First State. The loss of every acre of land designated as "excellent" and "good" recharge areas adversely impacts the future prospects for agriculture in Delaware. The developer should make every effort to protect and maintain valuable ground-water recharge potential areas.

This site overlaps with the State's Green Infrastructure Investment Strategy Plan. The Forest Land and Natural Areas layers are present on the entire site. This designation identifies areas of the state that contain inherently valuable resources, as discussed in

Governor Minner's Executive Order Number 61. Areas such as these should be preserved as such, and not developed for residential use.

The Delaware Department of Agriculture supports growth which expands and builds on existing urban areas and growth zones in approved State, county and local plans. Where additional land preservation can occur through the use of transfer of development rights, and other land use measures, we will support these efforts and work with developers to implement these measures. If this project is approved we will work with the developers to minimize impacts to the agricultural and forestry industries.

Right Tree for the Right Place

The Delaware Department of Agriculture Forest Service encourages the developer to use the "Right Tree for the Right Place" for any design considerations. This concept allows for the proper placement of trees to increase property values in upwards of 25% of appraised value and will reduce heating and cooling costs on average by 20 to 35 dollars per month. In addition, a landscape design that encompasses this approach will avoid future maintenance cost to the property owner and ensure a lasting forest resource.

Native Landscapes

The Delaware Department of Agriculture and the Delaware Forest Service encourages the developer to use native trees and shrubs to buffer the property from the adjacent land-use activities near this site. A properly designed forested buffer can create wildlife habitat corridors and improve air quality to the area by removing six to eight tons of carbon dioxide annually and will clean our rivers and creeks of storm-water run-off pollutants. To learn more about acceptable native trees and how to avoid plants considered invasive to our local landscapes, please contact the Delaware Department of Agriculture Plant Industry Section at (302) 698-4500.

Tree Mitigation

The Delaware Forest Service encourages the developer to implement a tree mitigation program to replace trees at a 1:1 ratio within the site and throughout the community. This will help to meet the community's forestry goals and objectives and reduce the environmental impacts to the surrounding natural resources. To learn more, please contact our offices at (302) 349-5754.

Public Service Commission - Contact: Andrea Maucher 739-4247

Any expansion of natural gas or installation of a closed propane system must fall within Pipeline Safety guidelines. Contact: Malak Michael at (302) 739-4247.

Delaware State Housing Authority – Contact Vicki Walsh 739-4263

This proposal is for a site plan review of 390 residential units on 260 acres located west of Scott Land Road and Womach Road, at the intersection with Phillips Hill Road, east of Laurel. According to the *State Strategies Map,* the proposal is located in an Investment Level 4 area. As a general planning practice, DSHA encourages residential development only in areas where residents will have proximity to services, markets, and employment opportunities, such as Investment Level 1 and 2 areas outlined in the State Strategies Map. Since the proposal is located in an area targeted for agricultural and natural resource protection, and therefore inconsistent with where the State would like to see new residential development, DSHA does not support this proposal.

Department of Education – Contact: John Marinucci 735-4055

DOE recognizes that this development project is in level 4 of the State Strategies for Policies and Spending and as such, DOE does not support the approval of this project. This proposed development is within the Laurel School District. DOE offers the following comments on behalf of the Laurel School District.

1. Using the DOE standard formula, this development will generate an estimated 190 students.
2. DOE records indicate that the Laurel School Districts' *elementary schools* ***are not at or beyond*** *100% of current capacity* based on September 30, 2006 elementary enrollment.
3. DOE records indicate that the Laurel School Districts' *secondary schools* ***are not at or beyond*** *100% of current capacity* based on September 30, 2006 secondary enrollment.
4. While the Laurel School District secondary and elementary schools are not currently beyond capacity, ***the district does NOT have adequate student capacity to accommodate the additional students likely to be generated from this development*** given the number of planned and recorded residential sub divisions within district boundaries. This development is identified as an active adult age 55+ community. Unless the development is age restricted by deed covenant, this development, in conjunction with other planned developments will cause significant burden to the Laurel School District.

5. Failing a 55+ age restriction deed covenant, the DOE requests that the developer contact the Laurel School District Administration to address the issue of school over-crowding that this development has the potential to cause.
6. Failing a 55+ age restriction deed covenant, the DOE requests developer work with the Laurel School District transportation department to establish developer supplied bus stop shelter ROW and shelter structures, interspersed throughout the development as determined and recommended by the local school district.

Sussex County – Contact: Richard Kautz 855-7878

Because this project is an AR-1 Cluster subdivision, the developer must include in the application a plan for the management of all open space.

Also, the developer must document for the Planning and Zoning Commission how the proposed development: provides for a total environment and design which are superior to that which would be allowed under the standard lot option; preserves the natural environment and historic or archeological resources; and, will not have an adverse effect on any of the items included under Ordinance Number 1152 (County Code 99-9C). For example, the reduction of 390 lots from 20,000 sq. ft. to an average lot size of 7,500 sq. ft. allows for more than 111 acres of open space yet only 58 acres of "useable" open space is provided. As a result, many of the lots do not have direct access to open space. The remaining open space is that which would otherwise be required with or without the clustering (i.e. stormwater management, buffers, and utilities). The project also proposes a 91% reduction in the existing forest. These issues can be addressed by including in the County application an explanation of how the developer plans to mitigate them and the issues raised by the State agencies during this review.

As an age restricted development, what provisions a being made for convenient shopping and entertainment, fire, and EMS coverage?

All sidewalks and trails within the development and any constructed at the request of DelDOT should tie together internally and with adjacent development so that persons using wheelchairs or pushing strollers can navigate without hindrance.

This year Sussex County will be considering implementation of a Source Water Protection Program required by the State. Depending on the requirements adopted by the County Council this project might be affected. Any well location should insure that the wellhead protection area is entirely on site.

The State Wetlands map indicates the possibility of wetlands impacting the location of proposed subdivision lots and roads. Therefore a jurisdictional determination letter

should be provided to support the proposed design for that area and that the lot layout does not contain any wetlands. This letter should be obtained prior to the request for approval of any final plan.

The Sussex County Engineer Comments:

The project proposes to develop using a private central community wastewater system. They recommend that the wastewater system be operated under a long-term contract with a capable wastewater utility. In addition, we recommend they have a wastewater utility provider prior to approving the project. Sussex County requires design and construction of the collection and transmission system to meet Sussex County sewer standards and specifications. A review and approval of the treatment and disposal system by the Sussex County Engineering Department is also required and plan review fees may apply. Disposal fields should not be counted as open space. Wastewater disposal fields should be clearly identified on recorded plots.

The proposed project is within the boundaries of the Western Sussex Planning Area Number 5. The Sussex County Engineering Department is currently conducting a planning study of the area. The study is scheduled to be complete by August of 2007. If Sussex County ever provides sewer service, it is required that the treatment system be abandoned and a direct connection made to the County system at the developers and/or owners expense.

For questions regarding these comments, contact Rob Davis, Sussex County Engineering Department at (302) 855-1299.

Following receipt of this letter and upon filing of an application with the local jurisdiction, the applicant shall provide to the local jurisdiction and the Office of State Planning Coordination a written response to comments received as a result of the pre-application process, noting whether comments were incorporated into the project design or not and the reason therefore.

Thank you for the opportunity to review this project. If you have any questions, please contact me at 302-739-3090.

Sincerely,

Constance C. Holland

Constance C. Holland, AICP
Director

CC: Sussex County